nature ecology & evolution

Article

https://doi.org/10.1038/s41559-024-02357-0

A global survey of prokaryotic genomes reveals the eco-evolutionary pressures driving horizontal gene transfer

In the format provided by the authors and unedited

Supplementary Table 1 | Mapping between COG functional categories and functional categories in KEGG (used in our study), SEED (used in Sheinman M et al), and TIGR (used in Paquola ACM et al and Nakamura Y et al).

COG Category	KEGG	SEED	TIGR
J: Translation	Translation	Translation (SEED Level 2)	Protein synthesis
K: Transcription (all)	Transcription	Transcription (SEED Level 2)	Transcription
K: Transcription (regulation)	NA	Regulation and Cell signaling (SEED Level 1)	Regulatory functions
L: Replication and repair	Replication and repair	DNA replication; DNA repair (SEED Level 2)	DNA metabolism
D: Cell cycle control and mitosis	Cell growth and death	Cell Division and Cell Cycle (SEED Level 1)	Cellular processes: cell division
M: Cell wall/membrane/ envelope biogenesis	Glycan biosynthesis and metabolism	Cell Wall and Capsule (SEED Level 1)	Cell envelope
N: Cell motility	Cell motility	Motility and Chemotaxis (SEED Level 1)	Cellular processes: chemotaxis and motility
O: Post-translational modification, protein turnover and chaperones	Folding, sorting and degradation	Protein processing and modification; Protein degradation; Protein folding (SEED Level 2)	Protein fate
T: Signal transduction	Signal transduction	Regulation and Cell signaling (SEED Level 1)	Signal transduction
U: Intracellular trafficking and secretion	Membrane transport	Membrane transport (SEED Level 1)	NA
V: Defense mechanisms	NA	Virulence, Disease and Defense (SEED Level 1)	Pathogenesis; Toxin production, resistance
C: Energy production and conversion	Energy metabolism	Respiration; Photosynthesis (SEED Level 1)	Energy metabolism
E: Amino acid transport and metabolism	Amino acid metabolism; Metabolism of other amino acids	Amino Acids and Derivatives (SEED Level 1)	Amino acid biosynthesis
F: Nucleotide transport and metabolism	Nucleotide metabolism	Nucleosides and Nucleotides (SEED Level 1)	Purines, pyrimidines, nucleosides, and nucleotides
G: Carbohydrate transport and metabolism	Carbohydrate metabolism	Carbohydrates (SEED Level 1)	Central intermediary metabolism
H: Coenzyme transport and metabolism	Metabolism of cofactors and vitamins	Cofactors, Vitamins, Prosthetic Groups, Pigments (SEED Level 1)	Biosynthesis of cofactors, prosthetic groups, carriers
I: Lipid transport and metabolism	Lipid metabolism	Fatty Acids, Lipids, and Isoprenoids (SEED Level 1)	Fatty acid and phospholipid metabolism

P: Inorganic ion transport and metabolism	NA	Potassium metabolism; Iron acquisition and metabolism (SEED Level 1)	NA
Q: Secondary metabolites biosynthesis, transport and catabolism	Metabolism of terpenoids and polvketides; Biosynthesis of other secondary metabolites	Secondary Metabolism (SEED Level 1)	NA
X: Mobilome: prophages, transposons	NA	Phages, Prophages, Transposable elements, Plasmids (SEED Level 1)	Plasmid, phage and transposon functions; Mobile and extrachromo-somal element functions
S: Function unknown	Not considered in pathways	NA	Unclassified